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10/21/2005

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EXAMINER

HWANG, JOON H

ART UNIT

PAPER NUMBER

2166

DATE MAILED: 10/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/087,234

**Applicant(s)**

KUMAR ET AL.

**Examiner**

Joon H. Hwang

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 19 July 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-11, 13-26, 28-35 and 37 is/are pending in the application.
- 4a) Of the above claim(s) 12, 27 and 36 is/are ~~withdrawn~~ Cancelled from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11, 13-26, 28-35 and 37 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. The applicants amended claims 1, 2, 10, 11, 14, 16, 17, 20, 26, 31, and 35 and canceled claims 12, 27, and 36 in the amendment received on 7/19/05.

The pending claims are 1-11, 13-26, 28-35, and 37.

### ***Response to Arguments***

2. Applicant's arguments with respect to claims 1-11, 13-26, 28-35, and 37 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 101***

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 31-35 and 37 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. "a computer-accessible medium" in 1<sup>st</sup> line of claims 31 and 35 is insufficient to render the claims **tangibly embodied** in a manner so as to be executable. Section 80 on page 26 of the specification defines the medium as including both storage media and transmission media. As such, claims 31 and 35 are non-statutory. Since claims 32-34 and 37 incorporate the deficiencies of claims 31 and 35 and do not add tangibility to the claimed subject matter, they are likewise rejected.

### ***Claim Rejections - 35 USC § 103***

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6. Claims 1, 6, 9, 17, 20, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Montero et al. (U.S. Publication No. 2002/0143958) in view of Goldick (U.S. Publication No. 2003/0093457).

With respect to claim 1, Montero discloses a plurality of application servers, wherein each of the plurality of application servers is configured to access session data, wherein the session data represents the state of a client session for a client (fig. 1, abstract, section 11 on page 1, section 26 on pages 2-3, and section 36 on page 3). Montero discloses a common session database (a distributed store) comprising a primary state of the session data configured for access by the plurality of application servers and writes to the database controlled by a processing thread (fig. 1, section 35 on page 3, and section 40 on page 4). Montero does not explicitly disclose a locking management of the database. However, Goldick discloses a locking management on a resource of a server system in a shared resource distributed computing environment (fig. 1, fig. 3, and sections 24-25 on page 3). Goldick discloses the server system comprising a resource configured for access by the plurality of client nodes, wherein the server system is configured to provide locked access to the resource to one of the plurality of the client nodes, wherein, while the resource is locked for the node, other nodes cannot access the resource (sections 24-25 on page 3). Goldick discloses wherein in providing locked access to the resource to the one of the plurality of the client nodes, the server system is configured to send a lock token to the node, wherein

only the node that have received a lock token can access the resource (sections 44-45 on page 5 and fig. 3) in order to prevent data inconsistency (section 5 on page 1).

Therefore, based on Montero in view of Goldick, it would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize teaching of Goldick to the system of Montero in order to prevent data inconsistency.

With respect to claim 6, Goldick discloses the server system is configured to grant the locked access to the one of the client nodes in response to a request for locked access from the node (sections 44-45 on page 5 and fig. 3). Therefore, the limitations of claim 6 are rejected in the analysis of claim 1 above, and the claim is rejected on that basis.

With respect to claim 9, Goldick teaches another node of the plurality of client nodes is configured to request locked access to the resource from the server system, and wherein if no node currently holds locked access to the resource, the server system is configured to provide locked access to the resource to the other node (section 44-45 on page 5 and fig. 3). Therefore, the limitations of claim 9 are rejected in the analysis of claim 1 above, and the claim is rejected on that basis.

The limitations of claims 17, 20, and 31 are rejected in the analysis of claim 1 above, and these claims are rejected on that basis.

7. Claims 2-3, 22, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Montero et al. (U.S. Publication No. 2002/0143958) in view of

Goldick (U.S. Publication No. 2003/0093457), and further in view of Eshel et al. (U.S. Publication No. 2003/0018785).

With respect to claim 2, Montero and Goldick do not explicitly disclose the process configured to hold locked access until after receiving a request to release the locked access. However, Eshel discloses after the node has completed a current access of a resource, the node is configured to hold locked access until after receiving a request to release the locked access (sections 11-12 on page 1 and fig. 2) in order to subsequently access the same resource without requesting additional locked access for the same resource. Therefore, based on Montero in view of Goldick, and further in view of Eshel, it would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the teaching of Eshel to the system of Montero in order to subsequently access the same resource without requesting additional locked access for the same resource.

With respect to claim 3, Goldick further discloses the server system notifies a node holding a locked access that a break (of the locked access) is about to occur (section 63 on page 7). Montero and Goldick do not explicitly disclose the distributed store configured to request the process to release the locked access. However, Eshel discloses a lock manager configured to request a node holding a locked access to release the locked access, wherein the node is configured to release the locked access in response to the request (sections 11-12 on page 1 and fig. 2) in order to provide the locked access to another node. Therefore, based on Montero in view of Goldick, and further in view of Eshel, it would have been obvious to one having ordinary skill in the

art at the time the invention was made to utilize the teaching of Eshel to the system of Montero in order to provide the locked access to another node.

The limitations of claims 22 and 32 are rejected in the analysis of claim 3 above, and these claims are rejected on that basis.

8. Claims 4, 7-8, 19, 23-25, and 33-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Montero et al. (U.S. Publication No. 2002/0143958) in view of Goldick (U.S. Publication No. 2003/0093457), and further in view of Bennett (U.S. Patent No. 5,734,909).

With respect to claim 4, Montero and Goldick disclose the claimed subject matter as discussed above except releasing the locked access when the process no longer requires the locked access. However, Bennett teaches the process is configured to release the locked access when the process no longer requires the locked access to the resource (the primary state, lines 58-65 in col. 1, lines 7-16 in col. 2, line 54 in col. 3 thru line 14 in col. 4, lines 22-46 in col. 7, and lines 14-35 in col. 8) in order to allow another process to access the resource. Therefore, based on Montero in view of Goldick, and further in view of Bennett, it would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the teaching of Bennett to the system of Montero in order to allow another process to access the resource.

With respect to claim 7, Montero and Goldick disclose the claimed subject matter as discussed above except buffering requests. However, Bennett discloses while the process holds the locked access, the central server (the distributed store) is configured

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to buffer one or more requests for locked access from one or more other processes executing within one or more of the plurality of client nodes (application servers, lines 58-65 in col. 1 line 54 in col. 3 thru line 14 in col. 4, lines 7-46 in col. 7, lines 53-67 in col. 7, and lines 14-35 in col. 8) in order to award processes with a locked request in the sequence that lock requests arrive. Therefore, based on Montero in view of Goldick, and further in view of Bennett, it would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the teaching of Bennett to the system of Montero in order to award processes with a locked request in the sequence that lock requests arrive.

With respect to claim 8, Bennett further teaches if the process release the locked access to the resource (the primary state), the central server (the distributed store) is configured to provide locked access to one of the other processes in response to the other process's buffered request (lines 58-65 in col. 1 line 54 in col. 3 thru line 14 in col. 4, lines 7-46 in col. 7, lines 53-67 in col. 7, and lines 14-35 in col. 8). Therefore, the limitations of claim 8 are rejected in the analysis of claim 7 above, and the claim is rejected on that basis.

The limitations of claims 19 and 23 are rejected in the analysis of claim 4 above, and these claims are rejected on that basis.

The limitations of claims 24 and 33 are rejected in the analysis of claim 7 above, and these claims are rejected on that basis.

The limitations of claims 25 and 34 are rejected in the analysis of claim 8 above, and these claims are rejected on that basis.



9. Claims 5, 18, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Montero et al. (U.S. Publication No. 2002/0143958) in view of Goldick (U.S. Publication No. 2003/0093457), and further in view of Bender et al. (US 2003/0163494 A1).

With respect to claim 5, Montero and Goldick disclose the claimed subject matter as discussed above except providing locked access to a thread within a process. However, Bender discloses the process is configured to provide locked access to at least a portion of a resource to a thread executing within the process, wherein, while the at least a portion of the resource is locked for the thread, other threads executing within the process cannot access the at least a portion of the resource (abstract, section 12 on page 12, sections 33-34 on page 3, sections 37-41 on page 4, and sections 43-45 on page 5). Therefore, based on Montero in view of Goldick, and further in view of Bender, it would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the thread-level locking mechanism of Bender to the system of Montero in order to avoid data inconsistency.

The limitations of claims 18 and 21 are rejected in the analysis of claim 5 above, and these claims are rejected on that basis.

10. Claims 10-11, 13-16, 26, 28-30, 35, and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Montero et al. (U.S. Publication No. 2002/0143958) in view of Bennett (U.S. Patent No. 5,734,909) and Bender et al. (U.S. Publication No.

2003/0163494 A1), and further in view of Eshel et al. (U.S. Publication No. 2003/0018785).

With respect to claim 10, Montero discloses a plurality of application servers, wherein each of the plurality of application servers is configured to access session data, wherein the session data represents the state of a client session for a client (fig. 1, abstract, section 11 on page 1, section 26 on pages 2-3, and section 36 on page 3). Montero discloses a common session database (a distributed store) comprising a primary state of the session data configured for access by the plurality of application servers and writes to the database controlled by a processing thread (fig. 1, section 35 on page 3, and section 40 on page 4). Montero does not explicitly disclose a locking management of the database. However, Bennett discloses a locking management on a resource of a central server in a shared resource distributed computing environment, wherein the resource of the central server is updated or synchronized with data from clients (abstract, line 15 in col. 1 thru line 30 in col. 2, and line 8 in col. 3 thru line 60 in col. 4). Bennett discloses the resource configured for access by the plurality of client nodes, wherein the resource is configured to provide locked access to a process executing within one of the plurality of the client nodes, wherein, while the resource is locked for the process, other processes cannot access the resource (line 8 in col. 3 thru line 60 in col. 4, and lines 4-20 in col. 7). Therefore, based on Montero in view of Bennett, it would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize a resource locking mechanism of Bennett to the system of Montero in order to avoid data inconsistencies. Montero and Bennett do not explicitly

disclose providing locked access to a thread within a process. However, Bender discloses the process is configured to provide locked access to portions of a resource to one or more threads executing within the process, wherein, while a portion of the resource is locked for one of the threads, other threads executing within the process cannot access the portion of the resource (abstract, section 12 on page 12, sections 33-34 on page 3, sections 37-41 on page 4, and sections 43-45 on page 5). Therefore, based on Montero in view of Bennett, and further in view of Bender, it would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the thread-level locking mechanism of Bender to the system of Montero in order to avoid data inconsistencies. Montero, Bennett, and Bender do not explicitly disclose the distributed store configured to request the process to release the locked access. However, Eshel discloses a lock manager configured to request a node holding a locked access to release the locked access, wherein the node is configured to release the locked access in response to the request (sections 11-12 on page 1 and fig. 2) in order to provide the locked access to another node. Therefore, based on Montero in view of Bennett and Bender, and further in view of Eshel, it would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the teaching of Eshel to the system of Montero in order to provide the locked access to another node.

With respect to claim 11, Montero, Bennett, and Bender do not explicitly disclose the process configured to hold locked access until after receiving a request to release the locked access. However, Eshel discloses after the node has completed a current

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access of a resource, the node is configured to hold locked access until after receiving a request to release the locked access (sections 11-12 on page 1 and fig. 2) in order to subsequently access the same resource without requesting additional locked access for the same resource. Therefore, based on Montero in view of Bennett and Bender, and further in view of Eshel, it would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the teaching of Eshel to the system of Montero in order to subsequently access the same resource without requesting additional locked access for the same resource.

With respect to claim 13, Bennett discloses the central server (the distributed store) is configured to grant the locked access to the process executing in one of the client nodes (the application servers) in response to a request for locked access from the process (lines 58-65 in col. 1 line 54 in col. 3 thru line 14 in col. 4, lines 22-46 in col. 7, lines 53-67 in col. 7, and lines 14-35 in col. 8). The limitations are rejected in the analysis of claim 10 above, and the claim is rejected on that basis.

With respect to claim 14, Bennett discloses while the process holds the locked access, the central server (the distributed store) is configured to buffer one or more requests for locked access from one or more other processes executing within one or more of the plurality of client nodes (application servers, lines 58-65 in col. 1 line 54 in col. 3 thru line 14 in col. 4, lines 7-46 in col. 7, lines 53-67 in col. 7, and lines 14-35 in col. 8). The limitations are rejected in the analysis of claim 10 above, and the claim is rejected on that basis.

With respect to claim 15, Bennett teaches if the process release the locked access to the resource (the primary state), the central server (the distributed store) is configured to provide locked access to one of the other processes in response to the other process's buffered request (lines 58-65 in col. 1 line 54 in col. 3 thru line 14 in col. 4, lines 7-46 in col. 7, lines 53-67 in col. 7, and lines 14-35 in col. 8). The limitations are rejected in the analysis of claim 14 above, and the claim is rejected on that basis.

With respect to claim 16, Bennett teaches another process executing within one of the plurality of client nodes (application servers) is configured to request locked access to the resource (the primary state) from the central server (the distributed store), and wherein if no process currently holds locked access to the resource, the central server is configured to provide locked access to the resource to the other process (lines 58-65 in col. 1, line 54 in col. 3 thru line 14 in col. 4, lines 7-46 in col. 7, lines 53-67 in col. 7, and lines 14-35 in col. 8). The limitations are rejected in the analysis of claim 10 above, and the claim is rejected on that basis.

The limitations of claims 26 and 35 are rejected in the analysis of claim 10 above, and these claims are rejected on that basis.

With respect to claim 28, Bennett teaches the process is configured to release the locked access when the process no longer requires the locked access to the resource (the primary state, lines 58-65 in col. 1 line 54 in col. 3 thru line 14 in col. 4, lines 22-46 in col. 7, and lines 14-35 in col. 8). The limitations are rejected in the analysis of claim 26 above, and the claim is rejected on that basis.

The limitations of claim 29 are rejected in the analysis of claim 14 above, and the claim is rejected on that basis.

The limitations of claim 30 are rejected in the analysis of claim 15 above, and the claim is rejected on that basis.

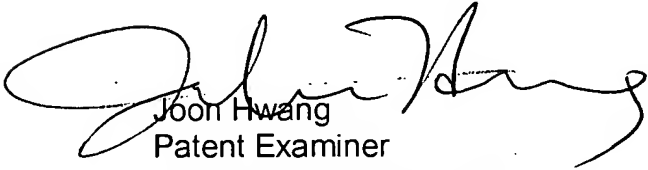
With respect to claim 37, Bennett teaches the process is configured to release the locked access when the process no longer requires the locked access to the resource (the primary state, lines 58-65 in col. 1, line 54 in col. 3 thru line 14 in col. 4, lines 22-46 in col. 7, and lines 14-35 in col. 8). The limitations are rejected in the analysis of claim 35 above, and the claim is rejected on that basis.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joon H. Hwang whose telephone number is 571-272-4036. The examiner can normally be reached on 9:30-6:00(M~F).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, HOSAIN T. ALAM can be reached on 571-272-3978. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Joon Hwang  
Patent Examiner  
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10/14/05